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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/202,969	11/03/2003	Jan Weiler	SCHU 202 US-	3605
7590 06/07/2006			EXAMINER	
Norman D Hanson Fulbright & Jaworski 666 Fifth Avenue New York, NY 10103			LIU, SUE XU	
			ART UNIT	PAPER NUMBER
			1639	

DATE MAILED: 06/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/202,969	WEILER ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Sue Liu	1639	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1) ☐ Responsive to communication(s) filed on \_\_\_\_.

2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4) ☒ Claim(s) 1-5 and 7-9 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.

5) ☐ Claim(s) \_\_\_\_ is/are allowed.

6) ☐ Claim(s) \_\_\_\_ is/are rejected.

7) ☐ Claim(s) \_\_\_\_ is/are objected to.

8) ☒ Claim(s) 1-5 and 7-9 are subject to restriction and/or election requirement.

**Application Papers**

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
       Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
       Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
       a) ☐ All    b) ☐ Some \* c) ☐ None of:  
           1. ☐ Certified copies of the priority documents have been received.  
           2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
           3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date ____	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. ____ 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) 6) <input type="checkbox"/> Other: ____
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### **DETAILED ACTION**

#### **Claim Status**

Claim 6 has been canceled as filed on 12/23/1998;

Claims 7-9 have been added;

Claims 1-5 and 7-9 are currently pending.

(Note the amended Claim 1 contains a typo. The term "30'-succinate" should be 3'-succinate.)

#### ***Election/Restrictions***

1. Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group 1, claim(s) 1-5 and 7, drawn to a method of synthesizing oligonucleotides on a surface.

Group 2, claim(s) 8, drawn to a method of analyzing nucleic acid molecule containing sample.

Group 3, claim(s) 9, drawn to a method for making a biopolymer.

2. The inventions listed as Groups 1-3 do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons:

A.) The common technical features in Group 1 are 3'-succinate derivative and alkylamino modified matrix surface.

B.) The common technical feature in Group 2 is a method of analyzing nucleic acid molecule.

C.) The common technical feature in Group 3 is a method for making a biopolymer.

Therefore, Groups 1-3 are not so linked by the same or corresponding special technical features as to form a single inventive concept. In addition, the technical features of Group 1 are known in the prior art. Kierzek et al (Biochemistry. Vol 25: 7840-7846; 1986) teach solid-phase synthesis of oligonucleotides using succinate derivatives (See page 7840, 3<sup>rd</sup> paragraph of right column of the reference). The reference teaches synthesis of nucleosides covalently attached to silica support using succinic anhydride, and producing 3'-succinate derivative of a protected nucleoside as shown in Figure 1 of the reference (see top of pg 7841). The instant specification also states "the 3'-succinate derivatives of protected nucleosides...as described in Kierzek et al..." (top, pg 3 of the instant specification). Furthermore, Meldal et al (WO 9316118; pub. Date 8/19/1993) teach polypropylene glycol containing polymer (which reads on the matrix surface) (see Abstract of the reference). The reference specifically teaches the said polymer is incorporated with a spacer comprising alkylamino group (see Abstract of the reference), which reads on the alkylamino modified matrix surface. The reference also teaches the alkylamino linker is incorporated on the polymer for the purpose of attaching nucleotides (see Abstract of the reference). Therefore, it would have been prima facie obvious for a person of ordinary skill in the art to synthesize oligonucleotides on an alkylamino modified matrix surface using succinate derivatives. Because Meldal et al teach alkylamino modified polymers are used to attach oligonucleotides, and that the polymer (polypropylene glycol) is designed especially for application as a solid support for the synthesis of oligonucleotides (see Abstract of the

reference), and Kierzek et al teach synthesizing oligonucleotides on a solid-phase support, a person of ordinary skill in the art would have been motivated to synthesize oligonucleotides using 3'-succinate derivatives on a alkylamino modified polymer. Thus, the inventions lack unity.

### *Species Election*

2. This application contains claims directed to more than one species of the generic invention. These species are deemed to lack unity of invention because they are not so linked as to form a single general inventive concept under PCT Rule 13.1.

Applicants are requested to further elect **a single ultimate species for each** of the following:

- a. If applicants elect Group 1 (Claims 1-5 and 7), 2 (Claim 8), or 3 (Claim 9), applicants are requested to further select a single specific species of an alkylamino group for modifying the matrix.
- b. If applicants elect Group 1, applicants are requested to further select a single specific species of a 3'-succinate derivative.
- c. If applicants elect Group 1, 2, or 3, applicants are requested to further select a single specific species of matrix.

The species are distinct, each from the other, because their structure and modes of action are different. They would also differ in their reactivity and the starting materials from which they are made. For different species of method, the method steps for each species would differ. Moreover, the above species can be separately classified. Consequently, the species have

different issues regarding patentability and represent patentably distinct subject matter. Thus the unity of invention between each species subgroup is lacking.

Applicant is required, in reply to this action, to elect a single species to which the claims shall be restricted if no generic claim is finally held to be allowable. The reply must also identify the claims readable on the elected species, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered non-responsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

The claims are deemed to correspond to the species listed above in the following manner: Please see the above species selection for correspondence between the claims and the species selection.

The following claim(s) are generic: 1-5, and 7-9.

2. The species listed above do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, the species lack the same or corresponding special technical features for the following reasons: The species are distinct, each from the other

structurally and functionally, because their modes of action are different. Therefore, the species have different issues regarding patentability and represent patentable distinct subject matter.

3. Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

4. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

#### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sue Liu whose telephone number is 571-272-5539. The examiner can normally be reached on M-F 9am-3pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Paras can be reached on 571-272-4517. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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MARK SHIBUYA, PH.D.  
PATENT EXAMINER